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A NEW SCLERACTINIAN CORAL OF THE GENUS
FLABELLUM FROM NEW ZEALAND, WITH A NEW
RECORD OF *STEPHANOCYATHUS*

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Several specimens of stony corals collected by the New Zealand Marine Department were sent to the junior author for identification. During a visit to the Smithsonian Institution in 1964, she took the opportunity to compare these specimens with reference collections in the Museum of Natural History and other collections of New Zealand corals described by Squires and Keyes (in press). The present descriptions are based largely upon the Marine Department collections and also upon specimens taken by the New Zealand Oceanographic Institute.

FAMILY FLABELLIDAE BOURNE, 1905

Genus *Flabellum* Lesson, 1831

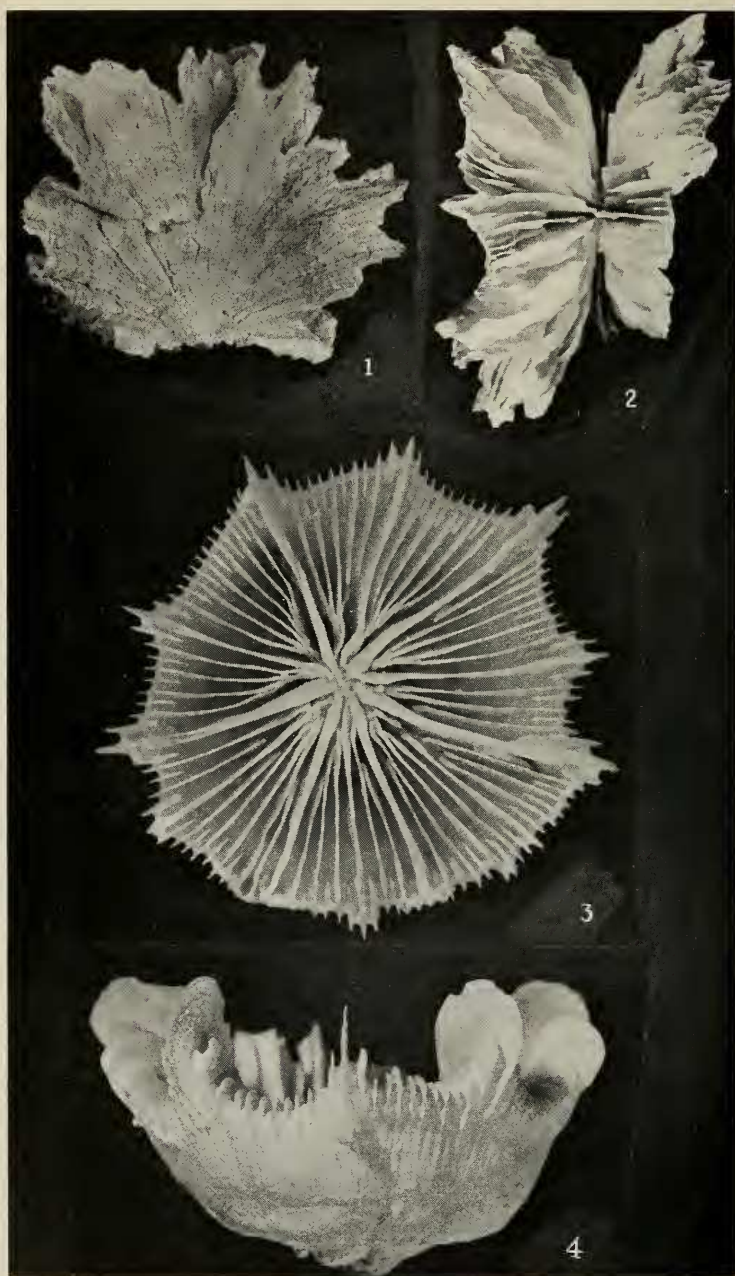
Flabellum lowekeyesi, new species

(Figs. 1, 2)

Holotype: Figured holotype deposited in the Department of Zoology, Victoria University. Paratype, U.S.N.M. 45601, U. S. National Museum.

Etymology: Specific epithet derived from the names of our colleagues, Ian W. Keyes and T. Peter Lowe.

Description: Corallum free, fragile, flabelliform, with lacerate upper margin. Corallum lateral edges forming about 180° angle, prominently crested, crest an external extension of lateral septa. Wall deeply incised immediately above lateral edge, incision including all or some of second, third and fourth septa from lateral septum. Corallum height 25.6 to 55.0 mm; maximum calice diameter 36.0 to 70.4 mm. Calice broadly open, lateral faces flaring outward from center; minimum diameter 18.0 to 30.0 mm. Corallum free, but juveniles attached to bit of shell or sand grain.



Pedicle elongate in long axis of corallum, diameter to 2.5 mm. Lateral corallum faces colorless, clean, free from attachments of other organisms. Septa projections beyond wall slight, except lateral crests. Lateral faces concave, pinched inward in central calice. Lateral faces at first form about 50° angle in central region, angle increasing progressively with corallum size. As many as 190 septa, accelerated in lateral portions of corallum. About 24 septa reach calice center, but number of septa inserted between these highly variable. First group septa slightly wavy, evenly smooth, slightly thickened at proximal margin, prominently marked laterally by growth lines more or less parallel with leading edge, and by widely dispersed granules. Higher group septa thinner, more wavy, somewhat more granular laterally. Interseptal loculae width variable.

Polyp known only from badly damaged, non-expanded specimens. Polyp cream colored, with light yellow tentacles in semi-retracted phase. Stomodeum apparently ridged but not colored.

Measurements of holotype: Height: 50 mm; maximum diameter: 55 mm; minimum diameter: 30 mm; septa number: 147.

Type-locality: Station 29, New Zealand Marine Department, 26 miles off Cape Brett, New Zealand, 732 m; 22 November 1962; 2 living specimens.

Other localities: Station 30, New Zealand Marine Department, 22 miles north of Cape Brett, 732 m; 22 November 1962; 2 living specimens. Station B683, New Zealand Oceanographic Institute, northwest of Cape Farewell, New Zealand, 40° 00' S, 171° 15' E, 378–381 m; several specimens taken alive. N.Z.O.I. Station D137, 48° 52.5' S, 169° 06' E, 640 m; several specimens taken alive.

Remarks: This species is a member of the "lacerate *Flabellum*" species group which will receive more formal designation in a pending comprehensive review. The species seems widely distributed in the New Zealand region, particularly about the Campbell Plateau where it is found in depths of 400 meters or more (unpublished data).

Other species of New Zealand *Flabellum* having a lacerate upper wall margin are *F. aotearoa* Squires, 1964, and another new species (Squires and Keyes, in press). The present species differs from *A. aotearoa* in having colorless, fluted lateral faces and is considerably larger. It differs from the undescribed New Zealand form in that it is not bowl-shaped, its wall lacks knobs or protuberances, and it is somewhat larger. Many undescribed species of *Flabellum* characterized by a lacerate upper wall margin, exist in the Philippine Islands and Coral Sea region. The present species is closely related to some of these, but differs significantly from them in its colorless wall and larger corallum size.

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FIGS. 1, 2. *Flabellum lowekeyesi*, n. sp. Holotype XI. FIGS. 3, 4. *Stephanocyathus* sp.

FAMILY CARYOPHYLLIDAE GRAY, 1847

Genus *Stephanocyathus* Sequenza, 1864

Stephanocyathus sp.

(Figs. 3, 4)

Specimen: Deposited in the Department of Zoology, Victoria University.

Description: Corallum free, bowl-shaped, with highly exsert septa. Corallum basal portion corroded, with badly corroded remnants of stalk attachment. Corallum basal portion nearly flat, curving abruptly upward to form steep, but not vertical, wall. Septa highly exsert, upper wall margin scalloped evenly between septa. Wall costate, but costae, low and not prominent. Wall granulate, granules concentrated on summits of costae. Septa number 115 in five complete cycles with portions of sixth cycle present in most systems. Sixth cycle septa inserted on either side of fifth cycle septa in loculi adjacent to first cycle septa, and asymmetrically adjacent to second cycle septa. Columella absent, but thickened inner septa edges mingling in corallum center fill its lower portion. Corallum broadly open. Septa narrow, but rounded at upper edge, falling vertically, then becoming concave, extending towards calice center. Septa laterally ornamented with fine granules arranged along growth lines.

Polyp unknown.

Measurements: Height: 30 mm; maximum diameter: 75 mm; height of exsert septa: 12 mm.

Distribution: Station 12, New Zealand Marine Department, 15 miles N 50° E of Plate Island, New Zealand, 622–585 m; 29 September 1962, one dead specimen.

Remarks: The single specimen is large and relatively undamaged although half of the corallum was injured in life, probably through predation. Regeneration of injured portion has resulted in an asymmetrical corallum. Septal arrangement may differ slightly in normal specimens, but the arrangement described here was derived from study of undamaged sextants.

Two subgenera are recognized in *Stephanocyathus* (cf. Wells, 1956): *Stephanocyathus* and *Odontocyathus*. The former is characterized by a bowl-shaped corallum, while the latter is distinguished by the costae on the lower portion of the corallum being extended into spines. In general, specimens of *Odontocyathus* have a more cylindrical profile, and often a flat base and almost vertical walls. In many species of this group the spines may be reduced to short knobs, or in extreme cases to an expanded rim or flared lip about the base of the corallum. The present species lacks such indication of "incipient" spines, but does not have a profile which is suggestive of *Odontocyathus* in its flattened base.

Moseley (1881) described *Stephanocyathus* [S.] *platypus* from Challenger collections (Station 164) off Sydney, Australia from a depth of 750 meters. This record, the closest occurrence of the subgenus

geographically to New Zealand, is based on two specimens, neither of which is half the diameter of the present form, nor has rounded bases. Further, the tendency for the septa to join immediately before the center of the calice is not as marked, for in *S. platypus* the septa remain separate and appear slightly swollen at the proximal end. The union of septa in the New Zealand specimen may, however, be a character resulting from the age of the specimen, for the great swelling of the proximal ends of the primary septa appears to crowd those of higher cycles.

In summary, differences between the present specimen and described species of *Stephanocyathus* appear to warrant the designation of this as a new species. However, because of the questions about corallum morphology raised as a result of the size (and age?) of this specimen, it would appear more prudent to avoid naming the species at this time.

LITERATURE CITED

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